FORUM
FOR APPLIED RESEARCH AND PUBLIC POLICY

The Myth of Farmland Loss

Market-based approaches to farmland protection will ensure an adequate food supply into the 21st century.

BY JEFFERSON G. EDGENS And SAMUEL R. STALEY

Government-led, slow-growth strategies intended to reduce sprawl and protect farmland are the rage today. Many states are jumping on the growth management bandwagon, including Maryland, Pennsylvania, Oregon, and even Georgia, which recently created a Regional Transportation Authority to address air quality issues through transit and land-use planning. The Clinton administration is also pushing land management through its $1 billion Lands Legacy Initiative, which promotes the protection of national parks and encourages the preservation of green spaces, wildlife habitat, and recreational resources.1 The driving force behind these efforts at slowing growth is the estimated rate of suburbanization and loss of farmland and open space.

The media and slow-growth advocates also call our attention to the loss of farmland and open space, citing statistics to support their claim that farmland is being converted to residential and commercial uses at alarmingly high rates and that this threatens the nation's food security.

However, farmland loss has been moderating across the nation during the last 30 years from the highest rate of loss in the 1960s.2 Significantly, development of agricultural land has declined even as the pace of urbanization has moderated. From 1960 to 1990, the amount of agricultural land taken out of production was the size of Texas. But of that total, only one-eighth of the area was used for urban or suburban development.3

Subjecting land-use issues to political decision making, however, creates new policy dilemmas and requires making choices that lie outside normal market mechanisms. Under these management scenarios, policymakers, rather than the farmers who make their living off the land, are required to make decisions about the most productive use of land and the types of crops most suitable for particular locations.

Policymakers are also faced with a number of new questions. How will they know how much agricultural land is enough? Will they save too much farmland or create new problems in development, housing, and transportation? Will political decisions make it more difficult for farmers to expand their operations?

In fact, given recent trends toward moderation, policy analysts and policymakers should question whether farmland loss is significant enough to

warrant interventions in the land market through statewide growth-management laws. At the same time, there are several market-based reforms that can be implemented, for the most part at the local level. These reforms harness tendencies within the real estate market to allocate land in a socially and economically efficient way through the price mechanism, a feature that would be lost if land development were subject to intrusive statewide growth-management laws.

Farmland Debate

Most farmland task forces and proponents of growth management have based their case for slowing development on an empirical review of farmland trends and productivity. However, since most task forces were established with an explicit advocacy mission, these recommendations are inevitably marketed with slogans and supported by exaggerated estimates of the amount of farmland lost over a recent period.4 For example, growth management proponents in Michigan cite farmland loss rates of 10 acres an hour to justify special tax treatment for farmland, publicly funded programs to buy the future development rights for farmland, and special land-use categories to preserve agricultural land within local land-use plans. In Ohio, supporters rallied around the cry of 5 acres an hour, and in Colorado, the claim was 3 acres an hour. These and other claims are used to instigate government intervention to preserve open space and the local agricultural industry.

As policy advocates for farmland and open-space preservation, these task forces do not necessarily provide a balanced approach to the issues. In fact, the data and evidence on open space and farmland loss suggest that the nation, or at least the agricultural industry, is not facing a land shortage or a crisis in open space.

Myth Number One:

The nation faces a farmland crisis.

For many, the loss of farmland is the most important indicator of a declining agricultural industry. Land in farms fell from 1.2 billion acres in 1950 to 968 million acres in 1997.5 At first glance, this decline seems startling: farmers are growing food on about 20 percent less land. However, a more detailed analysis of trends in farmland loss presents a less alarming picture.

The 1960s saw the most significant loss in farmland, when the nation lost 7.3 million acres per year, or 6.2 percent during the decade. After the 1970s, farmland loss moderated in absolute terms. The nation lost about 6.3 million acres per year, or 5.8 percent during the 1970s and 5.2 million acres per year or a total of 5 percent for the 1980s. Then in the 1990s farmland loss was cut almost in half, averaging just 2.6 million acres per year, or 2.7 percent for the decade. Thus, projections of future farmland losses based on historical patterns are unreliable.

Take the case of Michigan. After losing 2.7 million acres in farmland during the 1960s, Michigan had 12.7 million acres left in farmland in 1970. If that rate of loss had been sustained, Michigan would have run out of farmland within 50 years, that is, by the year 2020.6 Farmland losses, however, moderated to 1.3 million acres during the 1970s. Even at that pace, Michigan would have run out of farmland in about 100 years. At the 1990s loss rates, Michigan has more than two centuries of farmland left. In fact, based on historical trends, Michigan will stop losing farmland by the end of the next decade. Ironically, farmland losses were moderating while newspaper headlines in Michigan were highlighting the effects of urban sprawl, and a governor's task force recommended legislative action to protect farmland from land development.

While farmland loss is highly variable from state to state, a general trend toward moderating farmland loss is evident in the 1990s. In California, farmland loss increased through the 1980s and then dropped to 3.7 percent in the 1990s, while Minnesota lost almost 5 percent of its farmland in the 1960s, but just 1 percent in the 1980s and 1990s. In Ohio, however, farmland disappeared at a more rapid pace, about 8 percent per decade during the 1960s and 1970s. Though the trend then moderated to below 4 percent during the 1980s, it picked up again in the 1990s. The current rate of 4.7 percent, however is still less by almost half than the loss rate of earlier decades. Thus, historical patterns of farmland loss are not reliable predictors of future farmland loss.

Myth Number Two:
Urbanization is the primary cause of farmland loss.
While conventional wisdom claims urbanization — or dense development — is the primary culprit in farmland loss, the reality may be quite different. Urbanized land area increased by 8.8 million acres in the United States from 1982 to 1992, a 17.4-percent increase.7 Yet total cropland, grasslands, and pasture declined by 14.4 million acres during the same period.8 Urbanization, then, accounts at most for a little more than half of the nation's farmland loss. Other causes include idle land, fallow, and land that reverts to forest.

Another supposed detriment of urbanization is the national decline in forests, 8.5 million acres from 1982 to 1992 of lost open space. Even if you add lost forest and farmland, urbanization still could account for only about 36 percent of the loss in rural open space.

Agricultural economist Luther Tweeten, who examined changes in cropland from 1949 to 1992, found that urbanization accounted for about 26 percent of agricultural land converted from cropland.9

Changes in forest land present an even murkier statistical picture. While in New Jersey, total land lost to urbanization appears to parallel the decline in forest and farm-related acreage, Maryland actually added 54,000 acres of forest. Thus, while urbanization consumed 188,000 acres in Maryland, urbanization and forestry consumed less than half the total loss of agricultural land.

The amount of cropland — the land used to grow food — changes over time, sometimes increasing and sometimes declining depending on the demand for food and the productivity of agriculture. Cropland declined from 1954 to 1964, then increased by 6.3 percent from 1964 to 1969, declined again by 1.5 percent from 1969 to 1974, and increased from 1974 to 1978 — a period of significant outmigration from central cities — and then fell modestly through 1992. Despite rapid urbanization, the agricultural industry has increased its efficiency and kept up with the ever-changing demands of the market.

It's not just the total acreage lost that worries some people. Many are also concerned about the loss of prime farmland, which depends on irrigation, location, soil type, and other criteria. "Prime farmland," notes the U.S. Department of Agriculture, "has the growing season, moisture supply, and soil quality needed to sustain high yields when treated and managed according to modern farming methods."

Nationally, 24 percent of rural nonfederal land and half of all cropland is classified as prime. About 28 percent of urbanization affects prime farmland, while one-third of converted land is nonprime forestland and another 24

percent is non-prime farmland. In other words, people are developing marginal forests and nonproductive or idle farmland for the most part.10

Designation as prime farmland, however, does not necessarily mean it is economically productive. Some farmers who own prime farmland can't make a living from it because of low market prices for their product, while some of the nation's most productive farmland is not prime. Florida and Arizona, according to the U.S. Department of Agriculture, have little prime farmland but their lands are among the most productive of all the states.11

A number of factors besides the quality of the land influence the productivity of agriculture, including weather, erosion, the use of fertilizers, pesticides, and other technologies. In fact, the nation's agricultural output has increased tremendously in recent years, largely as a result of better harvesting techniques and new technology.

Myth Number Three:
Farmland loss threatens the food supply.
Concern about the loss of farmland is often tied to agricultural production, and growth management laws sometimes explicitly attempt to protect agriculture. South Carolina's County Planning Act, for example, lists "protecting the food supply" as one of nine justifications for comprehensive countywide planning.12 And a recent Michigan State University study warned of impending food shortages. Farmland acreage trends

> should assure that Michigan citizens will have sufficient land for food production to the year 2010, but future generations may not be able to produce enough food if the population continues to grow.... Farm products will continue to be exported from and imported into Michigan, but other states will also experience decreases in farmland and cropland acreage and face similar challenges to provide an adequate food supply.13

While some fear that land scarcity will threaten agricultural output, in fact, increased agricultural productivity and new technologies are reducing the demand for agricultural land. If farmers can grow more food on less land, more land is available for other uses such as open space, commercial development, or housing. In fact, the U.S. Department of Agriculture recently found that, although cropland acreage has undergone little net change since 1945, how it is used varies dramatically over time. Whether cropland is harvested, stands idle, or lies fallow depends more on federal programs such as the Conservation Reserve Program and on economic markets than on the amount of land under cultivation.14

Moreover, strong export markets fueled expansion of cropland in the 1970s and 1980s, while in the 1990s cropland declined as millions of acres were diverted into federal programs that subsidized certain crops or conservation programs that encouraged landowners to leave land idle. Idle cropland, for example, has varied from 20.5 percent of the total used for crops in 1987 to 5.5 percent in 1982. In 1992, 56 million acres, or 16.6 percent of the total amount that had previously been cultivated, was idle. In fact, the total amount of land under cultivation has not declined in the past decade because of urban development. Instead, lack of farm economic viability was the principal reason for cropland loss.15

In addition, higher yields and new varieties of food stocks have allowed new industries to emerge. Corn and other crops are now used to produce fuel

C-058772

alcohol and energy from biomass. Hydroponics — growing crops in a nutrient rich water-based solution — is also commercially viable, even without subsidies. This dramatically reduces the importance of land in food production. Whether these uses create significant demand for crops will depend on market factors such as the scarcity of energy sources.16

In addition, world population growth is expected to level off well before a crisis in food production emerges. Yet, even if food output slows, the citizens in developed countries such as the United States would scarcely notice the impacts. The real impacts would be felt by impoverished populations in developing countries.

The Bottom Line

If the loss in farmland is an economic issue, then policies to protect farmland should also center on economics. This requires more reliance on market-based solutions and less government involvement. There are prescriptions to protect farmland by applying free-market techniques to protect farms and open space and make positive contributions to the economy without creating new government programs.

■ **Enact performance zoning**. Zoning traditionally involves specifying how the land is to be used, for example for agricultural, residential, or commercial development. Zoning also tends to be proscriptive in that it bans or regulates the types of structures that can be built.

A more flexible approach is zoning through intensity of land use rather than purpose for which land is to be used. This concept allows planners to evaluate the intensity of development rather than the classification of type of development. This would allow a more compact urban form and encourage high-density development.

Performance zoning measures such things as residential densities, the amount of impervious surface layer, and the height and size of structures in the district. From these calculations, planners might recommend stronger buffering between some land uses, based on intensity of use. For example, areas with existing spots of high-density housing or commercial development could continue to follow existing land development patterns without unintentionally developing less populous rural areas.17

■ **Eliminate the federal estate tax.** The estate tax generates about $19 billion annually, slightly more than 1 percent of federal revenues. Compliance costs, however, run about 65 cents for every dollar raised. It hits those that are "land rich and cash poor" the hardest. For example, a Florida farm of 17,000 acres had to be sold to pay the estate tax. Of those original acres, 12,000 acres are now in development. Ironically, this land is also prime habitat for the Florida panther. So the estate tax not only weakens agriculture, but it removes habitat for wildlife that depend on large territories for their survival.18

In addition, many small businesses and family farms fail to make the transition from generation to generation. This discourages younger farmers from staying in the business. In fact, because of the estate tax, 70 percent of family businesses, including farms, do not make it through the second generation, and by the third generation, 87 percent have to be sold.

Furthermore, the estate tax encourages spending, not saving or capital investment. Owners may decide to spend money to minimize the tax bite —

but not on assets such as tractors or combines. Economist William Beach of the Heritage Foundation says "it makes sense to buy vacations in Aspen, Colorado, or a painting by Rubens instead of investing in new productive equipment or expanding a business." Beach and other Heritage Foundation economists used two of the nation's best statistical models to forecast what might happen if the death tax were repealed. The U.S. economy would average as much as $11 billion per year in additional economic output, 145,000 new jobs would be created, and personal incomes would rise an average of $8 billion per year above current projections.19

■ **Eliminate subsidies that encourage sprawl.** Many counties and municipalities spread the tax burden across the entire population, urban and rural, so that those who live in more dense neighborhoods with more efficient delivery of services in effect subsidize those living in the country. Local governments should encourage full-cost pricing—that is, charging developers and residents the actual cost of infrastructure improvements. (See "Scattered Development" in this issue of FORUM.) Then, when the new development connects to water and sewer, those who receive those benefits pay the full cost of doing so. One simple method to accomplish this is for cities to consider privatizing water, sewer, natural gas, and solid waste systems as a means of controlling growth. Savings to the city from operation and maintenance, in addition to revenue received beyond the cost of the project, can be reinvested in development rights of open space and farmland through greater government efficiency and privatization without the need for newer taxes. This would minimize the effects of sprawl at low cost to citizens.

In austere budget times, municipalities can benefit from not having to pay additional costs associated with infrastructure improvements and use the funds for more critical needs such as acquiring land, enhancing services, or cutting taxes. Reducing unnecessary regulations that drive businesses to other communities should also be a primary goal.

■ **Encourage protection of farmland and open space through private land trusts.** Private land trusts have grown over the last 10 years from 743 to 1,213, a 63-percent increase.20 As of 1998, various land trust have protected over 4.7 million acres. This is larger than the states of Connecticut and Rhode Island combined. Forty percent of these land trusts have protected farmland acreage. Even local communities have met with tremendous success in protecting farmland through private means. For example, in Lancaster County, Pennsylvania, the Lancaster Farmland Trust, established 10 years ago, has protected 82 farms and over 5,400 acres. The trust is also favored by the Amish community, which shuns government programs.

A tremendously successful example is the Colorado Cattleman's Association Land Trust. Part of the dues paid by members of this ranchers' organization goes toward buying up land. This sends a strong signal to members about the association's commitment to protecting farm and ranch lands across the state. There is tremendous and growing potential for state and county agricultural organizations to establish their own land trusts. Furthermore, such an effort can make belonging to the organization more meaningful and connect older farmers with younger farmers, thereby encouraging the long-term viability of agriculture. Established in 1995, the Colorado Cattleman's Association Land Trust has protected nearly 30,000 acres in a very short time.

The Marin Agricultural Land Trust also had its origins with farmers. In 1980, Ralph Gross — then-president of Marin County Farm Bureau in California — encouraged the county to establish a land trust. Over its history, the trust has

protected 26,000 acres, roughly 20 percent of the privately owned agricultural land in the county. These success stories demonstrate that land preservation programs that reflect market incentives and public-private relationships work best.

■ **Strengthen private property laws for individual landowners.** Markets work best with well-defined property rights. Local government should support nuisance and trespass remedies under the common law, for example, by allowing communities to sue farmers for water pollution from agricultural runoff. In addition, government agencies should be required to prepare cost-benefit analyses on all new and proposed regulations. Policymakers can take this a step further and require all laws to be enacted for specific periods of time. At the end of a certain time period, legislators would have to review and modify the laws to reflect any changes, or simply let the legislation die. Again, cost/benefit analyses should be used to evaluate the laws before they are renewed.

■ **Promote new agricultural technologies and expand global markets.** Farmers as well as the food processing industry need to have barriers removed that serve as disincentives for developing new technologies. Specifically, food irradiation should be supported for the meat industry. Irradiation shows potential in making the nation's food supply safe from bacterial contamination so farmers do not have to absorb the loss from spoilage. By increasing the farmer's profit margin, irradiation opens new markets here and abroad and lessens government intervention through bailouts and crop subsidies.

In addition, biotechnology promises not only increasing yields in crops, it also leads to a variety of newer pest- and chemical-resistant crops. This eliminates damaged produce, allowing more to get to market and less to perish. Smaller farms can benefit as yields will increase per acre with less agricultural inputs of fertilizers and pesticides damaging surface and groundwaters.

Down on the Farm

We are not experiencing a farmland crisis as slow-growth advocates would have us believe. Nationwide the rate of loss in farmland is moderating. To implement governmentally derived policies that deprive farmers and individual rural landowners of individual economic choices at a time when the disappearance of farmland is moderating might be overkill. Instead, state and local governments should consider voluntary, free-market oriented policies that allow for individual economic decisions responsive to the land market.

In addition, local governments should favor policies that do not increase citizens' taxes and the regulatory burdens on farmers. This means eliminating the estate tax, privatizing government services, reinvesting cost savings in land acquisition, and relying on flexible zoning and private land trusts.

Farmers have managed to feed the nation, produce a surplus harvest for export, and scrape a living off the land for generations in spite of, not because of, government intervention. Today, their farms are more productive than ever before because they have adopted new technologies and new management strategies. Allowing food producers to respond creatively to market forces will not only ensure security in the food supply, it may at last allow farmers to enjoy a reasonable profit and encourage the next generation to stay down on the farm and continue a family tradition.■

*Jefferson G. Edgens is the natural resource policy specialist with the University of Kentucky and an adjunct scholar with the Mackinac Center for Public Policy, in Midland, Michigan; and Samuel R. Staley is the director of the Urban Futures Program for Reason Public Policy Institute, in Los Angeles, California.*21

NOTES

1. See the White House Press release, "Remarks by the President and Vice President on Announcement of Lands Legacy Initiative," U.S. National Arboretum, January 12, 1999. For Georgia's regional Transportation Authority, see Senate Bill 57 at website <http://www.doe.k12.ga.us/legislation/transportation99.html>; Rob Gurwitt, "The State vs. Sprawl," *Governing Magazine* (January 1999), pp 18-23.

2. See Samuel R. Staley, The Sprawling across America, Reason Public Policy Institute, Policy Study 251 (January 1999); Steven Hayward, "Legends of the Sprawl," *Policy Review* (September/October 1998), pp. 26-32.

3. Wendell Cox, "The President's New Sprawl Initiative: A Program in Search of a Problem," Heritage Foundation Backgrounder (March 18, 1999), p. 4.

4. *Report of the Agricultural Task Force for Resource Conservation and Economic Growth in the Central Valley*, Executive Summary (July, 1998). See also, *Agriculture and Growth: A Report on the Conversion of Agricultural Land in Colorado*, Colorado Department of Agriculture/Governor's Task Force on Agricultural Lands, n.d., n.p.

5. National Agricultural Statistics Service. Importantly, farm acreage has not declined as significantly as the number of farms, representing an increase in the average size of farms.

6. Note that this implies Michigan would lose farmland at increasing rates. Since the base acreage declines as land is converted to other uses, a 2.7-million-acre loss each decade would represent a 21-percent loss in the 1970s, a 27-percent loss in the 1980s, a 37-percent loss in the 1990s, etc. See, Samuel R. Staley, *Urban Sprawl and the Michigan Landscape: A Market-Oriented Approach* (Midland, MI: Mackinac Center for Public Policy and Reason Public Policy Institute, October 1998).

7. U.S. Department of Agriculture, Major Land Uses, 1992 (Washington, DC: Economic Research Service, September, 1995); computer database on diskette.

8. Michigan Agricultural Statistics Service, *County Agricultural Statistics*, 1996.

9. Luther Tweeten, "Competing for Scarce Land: Food Security and Farm Preservation," paper presented to the American Agricultural Law Association in Minneapolis, MN (October 17, 1997).

10. United States Department of Agriculture, Economic Research Service, "Agricultural Resources and Environmental Indicators: 1996-97," *Agricultural Handbook* Number 712 (Washington, DC: USDA, July 1997), pp. 13, 42-43.

See also Section 1540(c)(1)(A) of Michigan's Farmland Protection Policy Act of 1980.

11. Ibid., pp 42-44.

12. S.C. Code of Laws, Chapter 27, Article 1, Section 4-27-40 of the County Planning Act.

13. "Land Resources," in Special Report 80, Michigan Agricultural Experiment Station, p. 15.

14. Arthur B. Daugherty, *Major Uses of Land in the United States: 1992*, Agricultural Economic Report No. 723 (Washington, DC: US Department of Agriculture, Economic Research Service, September 1995), pp. 11-12.

15. Ibid., Table 6, p. 10. These data exclude cropland used only for pasture; see also Tweeten, "Competing for Scarce Land."

16. Tweeten, "Competing for Scarce Land."

17. See Robert J. Juster, "From Prescriptive to Performance Zoning," in *Innovative Governments: Creative Approaches to Local Problems*, Douglas J. Watson, ed. (Westport, CT: Praeger Publishers, 1997), p. 66. See also John Charles, "Beyond Zoning: Land Use Controls in the Digital Economy," Cascade Policy Institute No. 106 (June 1998).

18. Jonathan Adler, "Repeal the Death Tax for Mother Earth," *Investors Business Daily* (April 22, 1999), p. A-22. See also William W. Beach, "A Scorecard on Death Tax Reform," Heritage Foundation Backgrounder (June 25, 1998), p. 3.

19. Beach, Ibid.

20. Joel S. Russell, "Land Trusts and Planning Commissions: Forging Strategic Alliances," *Planning Commissioners Journal* 34 (Spring 1999), p. 16. For additional infor- mation on each of the land trusts, visit their websites: Lancaster Farmland Trust <http://www.savelancasterfarms.org>; Colorado Cattlemen Cattleman's Association Land Trust <http://www.yampa.com/Routt/CSU/CCALTsuccess.html>; Marin Agricultural Land Trust <http://malt.org.

21. The authors retain the copyright of this article.

C-058777